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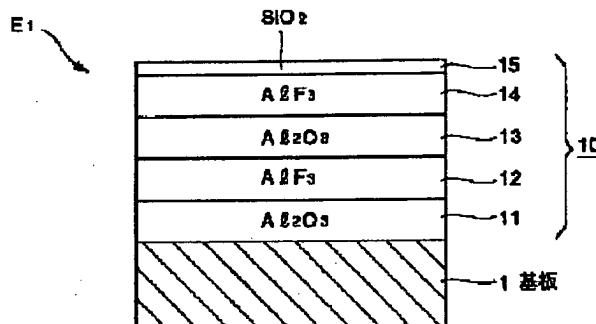
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TITLE : ANTIREFLECTION FILM AND ITS
 PRODUCTION



ABSTRACT : PROBLEM TO BE SOLVED: To obtain an excellent antireflection characteristic of a wide frequency width in a wavelength range of UV light, to enhance environmental resistance and to lessen the deterioration over aging by forming an SiO₂ film of multilayered films as a final layer furthest from a substrate side and specifying an optical film thickness.

SOLUTION: This antireflection film has a substrate 1 made of synthetic quartz, fluorite or the like and multilayered films 10 of five-layered constitution laminated thereon. The multilayered films 10 consists of a first layer 11 which is an Al₂O₃ film having an optical film thickness d₁, a second 12 which is an AlF₃ film (fluoride film) having an optical film thickness d₂, a third layer 13 which is an Al₂O₃ film having an optical film thickness d₃, a fourth layer 14 which is an AlF₃ film having an optical film thickness d₄ and a fifth layer 15 which is an SiO₂ film having an optical film thickness d₅. The final layer of the antireflection film is thus thinly overcoated with the SiO₂ film as a layer to prevent moisture. The optical film thickness of the SiO₂ film is adequately about 1/10 of a design central wavelength λ₀.

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